City of Santa Clara Reach Code Options July 15 2020 **(Proposed requirements unique to Santa Clara in blue.)**

Staff Recommended Reach Code for the city of Santa Clara in blue

	2019 California Energy Code/ 2019 California Green Building Code new changes SUMMARY *(Change from 2016 Energy and Green Code requirements.)*	**City of Santa Clara Recommended Reach Code Option #1 Mostly the same as the P.R.C. Recommendation for Climate Zone 4. + flexibility in alternatives (Mixed fuel)**	**Peninsula Reach Code Initiative Recommended Reach Code for Climate Zone 4 (Santa Clara):**
New Single Family Residential:	- Solar photovoltaics required, based on the size of the new house. For example, a new 2,500 s.f. house will require approximately 2.8 kw of solar power. -Quality Insulation Installation (QII) is a *prescriptive* requirement. (May not be required in a performance energy analysis.) - Home Energy Rating System (HERS) testing required for kitchen exhaust hoods -HVAC systems required to be designed closer to ACCA Manual J, which may affect duct sizes -HVAC filters required to be MERV 13 instead of the former MERV 8.	Performance Path Requirements 1. All Electric. Demonstrate that the proposed home will be all electric, OR 2. Mixed Fuel Building. Proposed Design Building shall be at least **10 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Low leakage ducts in conditioned space per 2019 Reference Appendices RA3.1.4.1.3 and RA3.1.4.3.8. b. Install R-10 perimeter slab insulation at a depth of 16-inches. c. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. d. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. e. Either 1) 5 kWh battery OR 2) A solar water heating system with a minimum solar savings fraction of 0.20 **(1.) Building Division may consider equivalent alternative methods.** **(2.) 1" conduit required to be run to all gas appliance locations.**	Performance Path Requirements 1. All Electric. Demonstrate that the proposed home will be all electric, OR 2. Mixed Fuel Building. Proposed Design Building shall be at least **10 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Low leakage ducts in conditioned space per 2019 Reference Appendices RA3.1.4.1.3 and RA3.1.4.3.8. b. Install R-10 perimeter slab insulation at a depth of 16-inches. c. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. d. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. e. Either 1) 5 kWh battery OR 2) A solar water heating system with a minimum solar savings fraction of 0.20
New multi-family residential, new construction, 3 stories or less	-Quality Insulation Installation (QII) is a prescriptive requirement. (May not be required in a performance energy analysis.) - Home Energy Rating System (HERS) testing required for kitchen exhaust hoods -HVAC systems required to be designed closer to ACCA Manual J, which may affect duct sizes -HVAC filters required to be MERV 13 instead of the former MERV 8.	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings. Proposed Design Building shall be at least **11 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Part 6. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Install R-10 perimeter slab insulation at a depth of 16-inches. b. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. c. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. d. Either 1) 2.75 kWh battery per dwelling unit OR 2) A solar water heating system with a minimum solar savings fraction of 0.20. e. Meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8, with less than or equal to 25 cfm leakage to outside. f. Install a roofing product that's rated by the Cool Roof Rating Council to have an aged solar reflectance (ASR) of greater than or equal to 0.25. **(1.) Building Division may consider equivalent alternative methods.** **(2.) 1" conduit required to be run to all gas appliance locations.**	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings. Proposed Design Building shall be at least **11 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Part 6. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Install R-10 perimeter slab insulation at a depth of 16-inches. b. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. c. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. d. Either 1) 2.75 kWh battery per dwelling unit OR 2) A solar water heating system with a minimum solar savings fraction of 0.20. e. Meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8, with less than or equal to 25 cfm leakage to outside. f. Install a roofing product that's rated by the Cool Roof Rating Council to have an aged solar reflectance (ASR) of greater than or equal to 0.25.
New Non-Residential/ Commercial, new construction, office or retail occupancies, or new multi-family residential over 3 stories:	Numerous changes: -fireplace pilot lights prohibited -changes to air filtration, natural, mechanical, and exhaust ventilation -changes to air classification and recirculation -changes to economizers -changes to cooling tower efficiencies -changes to exhaust system transfer air	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings Except Office and Mercantile. Demonstrate that the energy use of the proposed building is **6% more efficient** than the 2019 State Energy Code. 3. Mixed Fuel Buildings, Office and Mercantile. Demonstrate that the energy use of the proposed building is **14% more efficient** than the 2019 State Energy Code Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building, Except Office and Mercantile a. Install fenestration with a solar heat gain coefficient either i) no less than 0.45 in hotels/motels/high-rise multifamily, or ii) no greater than 0.22 in all other space types. b. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. c. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h d. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. e. In common areas, improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings Except Office and Mercantile. Demonstrate that the energy use of the proposed building is **6% more efficient** than the 2019 State Energy Code. 3. Mixed Fuel Buildings, Office and Mercantile. Demonstrate that the energy use of the proposed building is **14% more efficient** than the 2019 State Energy Code Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building, Except Office and Mercantile a. Install fenestration with a solar heat gain coefficient either i) no less than 0.45 in hotels/motels/high-rise multifamily, or ii) no greater than 0.22 in all other space types. b. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. c. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h d. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. e. In common areas, improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H

		2) Perform Institutional Tuning per Section 140.6(a)2J f. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.Mixed Fuel Building, Office and Mercantile: a. Install fenestration with a solar heat gain coefficient no greater than 0.22. b. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration. c. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. d. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h e. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. f. Improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H 2) Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I 3) Perform Institutional Tuning per Section 140.6(a)2J **(1.) Building Division may consider equivalent alternative methods.** **(2.) 1" conduit required to be run to all gas appliance locations.** **(3.) New food service and retail uses exempt from Reach Code Requirements.**	2) Perform Institutional Tuning per Section 140.6(a)2J f. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.Mixed Fuel Building, Office and Mercantile: a. Install fenestration with a solar heat gain coefficient no greater than 0.22. b. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration. c. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. d. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h e. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. f. Improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H 2) Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I 3) Perform Institutional Tuning per Section 140.6(a)2J
Electric Vehicle Charging Stations: New Single Family and Two Family Townhomes	No change to 2016 Code: -One Level 2 EV capable parking space per new unit (install conduit)	1st parking space: install Level 1 EV charging circuit -2nd parking space: install Level 2 EV charging circuit Exemption: accessory dwelling units without additional parking. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. **(No change from P.R.C. recommendation.)**	1st parking space: install Level 1 EV charging circuit -2nd parking space: install Level 2 EV charging circuit Exemption: accessory dwelling units without additional parking. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure.
Electric Vehicle Charging Stations: New Multi-Family	No change to 2016 Code: -For new buildings with 17+ units: 3% of total parking spaces Level 2 EV capable (install conduit)	New 20 units or less: -1 Level 2 EV ready per unit New over 20 units: -25% of parking spaces Level 2 EV ready -75% of parking spaces Level 1 EV ready, Any additional spaces load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. Load Management permitted for all E.V. parking spaces. **(No change from P.R.C. recommendation.)** **(See note #5; exceptions for affordable housing projects.)**	New 20 units or less: -1 Level 2 EV ready per unit New over 20 units: -25% of parking spaces Level 2 EV ready -75% of parking spaces Level 1 EV ready, Any additional spaces load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. Load Management permitted for all E.V. parking spaces.
Electric Vehicle Charging Stations: New Non-residential/ mixture	No change to 2016 Code: -For new buildings with at least 10 parking spaces: 6% of parking spaces Level 2 capable (install conduit)	Commercial excluding office use: - Install level 2 charging stations at 6% of parking spaces, install level 1 circuits at 5% of parking spaces. (One DC fast charger may substitute 6 level 2 chargers and 5 level 1 circuits if a min. number of stations have been installed. Any Additional spaces can use Load management system permitted for EV parking space power. Commercial with office use: - Install level 2 charging stations at 10% of parking spaces, - install level 1 circuit at 10% of parking spaces, - install 30% of spaces to be EV capable. Any additional spaces can use load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. **(No change from P.R.C. recommendation.)** **(See note #5; exceptions for affordable housing projects.)**	Commercial excluding office use: - Install level 2 charging stations at 6% of parking spaces, install level 1 circuits at 5% of parking spaces. (One DC fast charger may substitute 6 level 2 chargers and 5 level 1 circuits if a min. number of stations have been installed. Any Additional spaces can use Load management system permitted for EV parking space power. Commercial with office use: - Install level 2 charging stations at 10% of parking spaces, - install level 1 circuit at 10% of parking spaces, - install 30% of spaces to be EV capable. Any additional spaces can use load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure.

Note: for all classifications:

1. The city of Santa Clara Reach Code only applies to projects which have not yet applied for a Planning Division project review, unless no Planning Division project review is required for the proposed project.

2. For all electric vehicle charging stations; no changes to parking space dimensions are required other than dimensions already required by the California Building Code disabled access requirements, and the city of Santa Clara Zoning Code.

3. The city of Santa Clara Reach Code doesn't apply to additions nor alterations.

4. All common area bicycle storage rooms shall have adequate 110v outlets to charge all bicycle storage spaces.

5. Exceptions to electric vehicle charging stations requirements for affordable housing projects: 25% of the total parking spaces Level 1 Ready, 3% of the total parking spaces Level 2, 3% of total parking spaces Level 2 Ready.

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2 Additional Options for a city of Santa Clara Reach Code

	2019 California Energy Code/ 2019 California Green Building Code new changes SUMMARY *(Change from 2016 Energy and Green Code requirements.)*	City of Santa Clara Potential Reach Code **Option #2** Less Restrictive than the P.R.C. Recommendation for Climate Zone 4. + flexibility in alternatives **(Mixed fuel)**	City of Santa Clara Potential Reach Code **Option #3** More Restrictive than the P.R.C. Recommendation for Climate Zone 4. + flexibility in alternatives **(All electric)**	**Peninsula Reach Code Initiative Recommended Reach Code for Climate Zone 4 (Santa Clara):**
New Single Family Residential:	- Solar photovoltaics required, based on the size of the new house. For example, a new 2,500 s.f. house will require approximately 2.8 kw of solar power. -Quality Insulation Installation (QII) is a *prescriptive* requirement. (May not be required in a performance energy analysis.) - Home Energy Rating System (HERS) testing required for kitchen exhaust hoods -HVAC systems required to be designed closer to ACCA Manual J, which may affect duct sizes -HVAC filters required to be MERV 13 instead of the former MERV 8.	Performance Path Requirements 1. All Electric. Demonstrate that the proposed home will be all electric, OR 2. Mixed Fuel Building. Proposed Design Building shall be at least **5 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Low leakage ducts in conditioned space per 2019 Reference Appendices RA3.1.4.1.3 and RA3.1.4.3.8. b. Install R-10 perimeter slab insulation at a depth of 16-inches. c. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. d. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. e. Either 1) 5 kWh battery OR 2) A solar water heating system with a minimum solar savings fraction of 0.20 **(1.) Building Division may consider equivalent alternative methods.** **(2.) 1" conduit required to be run to all gas appliance locations.**	Performance Path Requirements 1. All Electric. Demonstrate that the proposed home will be all electric. **(All electric, no mixed fuel allowed.)** a. Low leakage ducts in conditioned space per 2019 Reference Appendices RA3.1.4.1.3 and RA3.1.4.3.8. b. Install R-10 perimeter slab insulation at a depth of 16-inches. c. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. d. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. e. Either 1) 5 kWh battery OR 2) A solar water heating system with a minimum solar savings fraction of 0.20 **(1.) Building Division may consider equivalent alternative methods.**	Performance Path Requirements 1. All Electric. Demonstrate that the proposed home will be all electric, OR 2. Mixed Fuel Building. Proposed Design Building shall be at least **10 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Low leakage ducts in conditioned space per 2019 Reference Appendices RA3.1.4.1.3 and RA3.1.4.3.8. b. Install R-10 perimeter slab insulation at a depth of 16-inches. c. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. d. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. e. Either 1) 5 kWh battery OR 2) A solar water heating system with a minimum solar savings fraction of 0.20
New multi-family residential, new construction, 3 stories or less	-Quality Insulation Installation (QII) is a prescriptive requirement. (May not be required in a performance energy analysis.) - Home Energy Rating System (HERS) testing required for kitchen exhaust hoods -HVAC systems required to be designed closer to ACCA Manual J, which may affect duct sizes -HVAC filters required to be MERV 13 instead of the former MERV 8.	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings. Proposed Design Building shall be at least **5 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Part 6. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Install R-10 perimeter slab insulation at a depth of 16-inches. b. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. c. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. d. Either 1) 2.75 kWh battery per dwelling unit OR 2) A solar water heating system with a minimum solar savings fraction of 0.20. e. Meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8, with less than or equal to 25 cfm leakage to outside. f. Install a roofing product that's rated by the Cool Roof Rating Council to have an aged solar reflectance (ASR) of greater than or equal to 0.25. **(1.) Building Division may consider equivalent alternative methods.** **(2.) 1" conduit required to be run to all gas appliance locations.**	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric. **(All electric, no mixed fuel allowed.)** Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. a. Install R-10 perimeter slab insulation at a depth of 16-inches. b. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. c. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. d. Either 1) 2.75 kWh battery per dwelling unit OR 2) A solar water heating system with a minimum solar savings fraction of 0.20. e. Meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8, with less than or equal to 25 cfm leakage to outside. f. Install a roofing product that's rated by the Cool Roof Rating Council to have an aged solar reflectance (ASR) of greater than or equal to 0.25. **(1.) Building Division may consider equivalent alternative methods.**	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings. Proposed Design Building shall be at least **11 EDR points** less than the Total Energy Design Rating calculated for the Standard Design Building. Prescriptive Path Requirements Part 6. Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building a. Install R-10 perimeter slab insulation at a depth of 16-inches. b. Compact hot water distribution per 2019 Reference Appendices RA4.4.6. c. Maximum central fan integrated ventilation system efficacy of 0.35 Watts/cfm and verification by a HERS rater according to 2019 Reference Appendices RA3.3. d. Either 1) 2.75 kWh battery per dwelling unit OR 2) A solar water heating system with a minimum solar savings fraction of 0.20. e. Meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8, with less than or equal to 25 cfm leakage to outside. f. Install a roofing product that's rated by the Cool Roof Rating Council to have an aged solar reflectance (ASR) of greater than or equal to 0.25.
New Non-Residential/ Commercial, new construction, office or retail occupancies, or new multi-family residential over 3 stories:	Numerous changes: -fireplace pilot lights prohibited -changes to air filtration, natural, mechanical, and exhaust ventilation -changes to air classification and recirculation -changes to economizers -changes to cooling tower efficiencies -changes to exhaust system transfer air	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings Except Office and Mercantile. Demonstrate that the energy use of the proposed building is **3% more efficient** than the 2019 State Energy Code. 3. Mixed Fuel Buildings, Office and Mercantile. Demonstrate that the energy use of the proposed building is **7 % more efficient** than the 2019 State Energy Code Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building, Except Office and Mercantile a. Install fenestration with a solar heat gain coefficient either i) no less than 0.45 in hotels/motels/high-rise multifamily, or ii) no greater than 0.22 in all other space types. b. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. c. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h d. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. e. In common areas, improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric. **(All electric, no mixed fuel allowed.)** Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. a. Install fenestration with a solar heat gain coefficient either i) no less than 0.45 in hotels/motels/high-rise multifamily, or ii) no greater than 0.22 in all other space types. b. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. c. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h d. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. e. In common areas, improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H 2) Perform Institutional Tuning per Section 140.6(a)2J f. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.Mixed Fuel Building, Office and Mercantile: a. Install fenestration with a solar heat gain coefficient no greater than 0.22.	Performance Path Requirements 1. All Electric. Demonstrate that the proposed building will be all-electric, OR 2. Mixed Fuel Buildings Except Office and Mercantile. Demonstrate that the energy use of the proposed building is **6% more efficient** than the 2019 State Energy Code. 3. Mixed Fuel Buildings, Office and Mercantile. Demonstrate that the energy use of the proposed building is **14% more efficient** than the 2019 State Energy Code Prescriptive Path Requirements Build All Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building, Except Office and Mercantile a. Install fenestration with a solar heat gain coefficient either i) no less than 0.45 in hotels/motels/high-rise multifamily, or ii) no greater than 0.22 in all other space types. b. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. c. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h d. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. e. In common areas, improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H

		2) Perform Institutional Tuning per Section 140.6(a)2J f. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.Mixed Fuel Building, Office and Mercantile: a. Install fenestration with a solar heat gain coefficient no greater than 0.22. b. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration. c. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. d. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h e. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. f. Improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H 2) Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I 3) Perform Institutional Tuning per Section 140.6(a)2J **(1.) Building Division may consider equivalent alternative methods.** **(2.) 1" conduit required to be run to all gas appliance locations.** **(3.) New food service and retail uses exempt from Reach Code Requirements.**	b. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration. c. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. d. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h e. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. f. Improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H 2) Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I 3) Perform Institutional Tuning per Section 140.6(a)2J **(1.) Building Division may consider equivalent alternative methods.** **(2.) New food service and retail uses exempt from Reach Code Requirements.**	2) Perform Institutional Tuning per Section 140.6(a)2J f. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.Mixed Fuel Building, Office and Mercantile: a. Install fenestration with a solar heat gain coefficient no greater than 0.22. b. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration. c. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums. d. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h e. Reduce the lighting power density (Watts/ft2) by ten percent (10%) from that required from Table 140.6-C. f. Improve lighting: 1) Control to daylight dimming plus off per Section 140.6(a)2H 2) Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I 3) Perform Institutional Tuning per Section 140.6(a)2J
Electric Vehicle Charging Stations: New Single Family and Two Family Townhomes	No change to 2016 Code: -One Level 2 EV capable parking space per new unit (install conduit)	1st parking space: install Level 1 EV charging circuit -2nd parking space: install Level 2 EV charging circuit Exemption: accessory dwelling units without additional parking. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. **(No change from P.R.C. recommendation.)**	**-2 parking spaces: install Level 2 EV charging circuit** Exemption: accessory dwelling units without additional parking. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. **(Stricter than P.R.C. recommendation.)**	1st parking space: install Level 1 EV charging circuit -2nd parking space: install Level 2 EV charging circuit Exemption: accessory dwelling units without additional parking. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure.
Electric Vehicle Charging Stations: New Multi-Family	No change to 2016 Code: -For new buildings with 17+ units: 3% of total parking spaces Level 2 EV capable (install conduit)	New 20 units or less: -1 Level 2 EV ready per unit New over 20 units: -25% of parking spaces Level 2 EV ready -75% of parking spaces Level 1 EV ready. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. Load Management permitted for all E.V. parking spaces. **(No change from P.R.C. recommendation.)** **(See note #5; exceptions for affordable housing projects.)**	New 20 units or less: -1 Level 2 EV ready per unit New over 20 units: -**50%** of parking spaces Level 2 EV ready -**50%** of parking spaces Level 1 EV ready, Any additional spaces load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. Load Management permitted for all E.V. parking spaces. **(Stricter than P.R.C. recommendation.)** **(See note #5; exceptions for affordable housing projects.)**	New 20 units or less: -1 Level 2 EV ready per unit New over 20 units: -25% of parking spaces Level 2 EV ready -75% of parking spaces Level 1 EV ready, Any additional spaces load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. Load Management permitted for all E.V. parking spaces.
Electric Vehicle Charging Stations: New Non-residential/ mixture	No change to 2016 Code: -For new buildings with at least 10 parking spaces: 6% of parking spaces Level 2 capable (install conduit)	Commercial excluding office use: - Install level 2 charging stations at 6% of parking spaces, install level 1 circuits at 5% of parking spaces. (One DC fast charger may substitute 6 level 2 chargers and 5 level 1 circuits if a min. number of stations have been installed. Any Additional spaces can use Load management system permitted for EV parking space power. Commercial with office use: - Install level 2 charging stations at 10% of parking spaces, - install level 1 circuit at 10% of parking spaces, - install 30% of spaces to be EV capable. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. **Load Management permitted for all E.V. parking spaces.** **(See note #5; exceptions for affordable housing projects.)**	Commercial excluding office use: - Install level 2 charging stations at **10%** of parking spaces, install level 1 circuits at **10%** of parking spaces. (One DC fast charger may substitute 6 level 2 chargers and 5 level 1 circuits if a min. number of stations have been installed. Any Additional spaces can use Load management system permitted for EV parking space power. Commercial with office use: - Install level 2 charging stations at **15%** of parking spaces, - install level 1 circuit at 10% of parking spaces, - install **40%** of spaces to be EV capable. Any additional spaces can use load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure. **(Stricter than P.R.C. recommendation.)** **(See note #5; exceptions for affordable housing projects.)**	Commercial excluding office use: - Install level 2 charging stations at 6% of parking spaces, install level 1 circuits at 5% of parking spaces. (One DC fast charger may substitute 6 level 2 chargers and 5 level 1 circuits if a min. number of stations have been installed. Any Additional spaces can use Load management system permitted for EV parking space power. Commercial with office use: - Install level 2 charging stations at 10% of parking spaces, - install level 1 circuit at 10% of parking spaces, - install 30% of spaces to be EV capable. Any additional spaces can use load management system permitted for EV parking space power. Exemption: Spaces accessible only by automated mechanical car parking systems are excepted from providing EV charging infrastructure.

Note: for all classifications:

1. The city of Santa Clara Reach Code only applies to projects which have not yet applied for a Planning Division project review, unless no Planning Division project review is required for the proposed project.

2. For all electric vehicle charging stations; no changes to parking space dimensions are required other than dimensions already required by the California Building Code disabled access requirements, and the city of Santa Clara Zoning Code.

3. The city of Santa Clara Reach Code doesn't apply to additions nor alterations.

4. All common area bicycle storage rooms shall have adequate 110v outlets to charge all bicycle storage spaces.

5. Exceptions to electric vehicle charging stations requirements for affordable housing projects: 25% of the total parking spaces Level 1 Ready, 3% of the total parking spaces Level 2, 3% of total parking spaces Level 2 Ready.